

## CLAIMS

### What is Claimed is:

1           1. A method of printing an imposed document, comprising the steps of:  
2           receiving source data;  
3           receiving a job ticket generated from the source data, the job ticket having a first  
4           identifier identifying a resource of the document and layout information describing a  
5           layout of the resource in the document;  
6           generating an second identifier associated with the resource, the second identifier  
7           locally recognizable by a printing device;  
8           storing the second identifier remotely from the printer;  
9           storing the resource locally to the printer; and  
10          printing the stored resource according to the layout information.

1           2.       The method of claim 1, wherein:  
2           the source data is received in a print optimizer and the second identifier is stored  
3           in the print optimizer;  
4           the job ticket is generated by an impositioning module.

1           3.       The method of claim 1, wherein the step of generating an second identifier  
2           associated with the resource comprises the steps of:  
3           determining if the resource is a new resource;  
4           generating the second identifier and associating the second identifier with the  
5           resource only if the resource is a new resource.

1           4.       The method of claim 1, further comprising the step of:  
2           converting the resource to a printer-renderable form if the resource is not in the  
3           printer renderable form.

1           5.     The method of claim 4, wherein the printer renderable form is compliant  
2 with a page description language.

1           6.     The method of claim 1, wherein the resource is stored in a memory of the  
2 printer or in a memory of a print server communicatively coupled between the print  
3 optimizer and the print server.

1           7.     The method of claim 1, wherein the resource is stored locally to the printer  
2 only if the resource is not already stored locally to the printer.

1           8.     The method of claim 1, further comprising the steps of:  
2 receiving a job ticket having the first identifier and second layout information  
3 describing a second layout of the resource in the document  
4 transforming the first identifier into the second identifier; and  
5 printing the stored resource according to the second layout information.

1           9.     The method of claim 1, wherein the impositioned document comprises  
2 variable data, and the method further comprising the steps of:  
3 augmenting the job ticket with the variable data.

1           10.    The method of claim 9, wherein the step of augmenting the job ticket with  
2 the variable data comprises the step of:  
3 accepting source data having a variable data tag;  
4 associating a first identifier with the variable data tags;  
5 replacing variable data tags with variable data or a reference to the variable data;  
6 and  
7 augmenting the job ticket with the variable data or the reference to the variable  
8 data.

1 11. An apparatus for printing an impositioned document, comprising:  
2 means for receiving source data;  
3 means for receiving a job ticket generated from the source data, the job ticket  
4 having a first identifier identifying a resource of the document and layout information  
5 describing a layout of the resource in the document;  
6 means for generating an second identifier associated with the resource, the second  
7 identifier locally recognizable by a printing device;  
8 means for storing the second identifier remotely from the printer;  
9 means for storing the resource locally to the printer; and  
10 means for printing the stored resource according to the layout information.

1 12. The apparatus of claim 11, wherein:  
2 the source data is received in a print optimizer and the second identifier is stored  
3 in the print optimizer;  
4 the job ticket is generated by an impositioning module.

1 13. The apparatus of claim 11, wherein the means for generating an second  
2 identifier associated with the resource comprises:  
3 means for determining if the resource is a new resource;  
4 means for generating the second identifier and associating the second identifier  
5 with the resource only if the resource is a new resource.

1 14. The apparatus of claim 11, further comprising:  
2 means for converting the resource to a printer-renderable form if the resource is  
3 not in the printer renderable form.

1 15. The apparatus of claim 14, wherein the printer renderable form is  
2 compliant with a page description language.

1           16.    The apparatus of claim 11, wherein the resource is stored in a memory of  
2 the printer or in a memory of a print server communicatively coupled between the print  
3 optimizer and the print server.

1           17.    The apparatus of claim 11, wherein the resource is stored locally to the  
2 printer only if the resource is not already stored locally to the printer.

1           18. The apparatus of claim 11, further comprising:  
2 means for receiving a job ticket having the first identifier and second layout  
3 information describing a second layout of the resource in the document;  
4 means for transforming the first identifier into the second identifier; and  
5 means for printing the stored resource according to the second layout information.

1           19.    The apparatus of claim 11, wherein the impositioned document comprises  
2 variable data, and the apparatus further comprises means for augmenting the job ticket  
3 with the variable data.

1           20.    The apparatus of claim 19, wherein the means for augmenting the job  
2 ticket with the variable data comprises:  
3 means for accepting source data having a variable data tag;  
4 means for associating a first identifier with the variable data tags;  
5 means for replacing variable data tags with variable data or a reference to the  
6 variable data; and  
7 means for augmenting the job ticket with the variable data or the reference to the  
8 variable data.

1           21.     A program storage device, readable by a computer, tangibly embodying at  
2     least one program of instructions executable by the computer to perform method steps of  
3     printing an impositioned document , the method steps comprising the steps of:  
4             receiving source data;  
5             receiving a job ticket generated from the source data, the job ticket having a first  
6     identifier identifying a resource of the document and layout information describing a  
7     layout of the resource in the document;  
8             generating an second identifier associated with the resource, the second identifier  
9     locally recognizable by a printing device;  
10            storing the second identifier remotely from the printer;  
11            storing the resource locally to the printer; and  
12            printing the stored resource according to the layout information.

1           22.     The program storage device of claim 21, wherein:  
2            the source data is received in a print optimizer and the second identifier is stored  
3     in the print optimizer;  
4            the job ticket is generated by an impositioning module.

1           23.     The program storage device of claim 21, wherein the method step of  
2     generating an second identifier associated with the resource comprises method steps of:  
3             determining if the resource is a new resource;  
4             generating the second identifier and associating the second identifier with the  
5     resource only if the resource is a new resource.

1           24.     The program storage device of claim 21, wherein the method steps further  
2     comprise the step of:  
3             converting the resource to a printer-renderable form if the resource is not in the  
4     printer renderable form.

1           25.    The program storage device of claim 24, wherein the printer renderable  
2 form is compliant with a page description language.

1           26.    The program storage device of claim 21, wherein the resource is stored in  
2 a memory of the printer or in a memory of a print server communicatively coupled  
3 between the print optimizer and the print server.

1           27.    The program storage device of claim 21, wherein the resource is stored  
2 locally to the printer only if the resource is not already stored locally to the printer.

1           28.    The program storage device of claim 21, wherein the method steps further  
2 comprise the steps of:

3           receiving a job ticket having the first identifier and second layout information  
4 describing a second layout of the resource in the document  
5           transforming the first identifier into the second identifier; and  
6           printing the stored resource according to the second layout information.

1           29.    The program storage device of claim 21, wherein the impositioned  
2 document comprises variable data, and the method steps further comprise the steps of:  
3           augmenting the job ticket with the variable data.

1           30.    The program storage device of claim 9, wherein the method step of  
2 augmenting the job ticket with the variable data comprises the step of:  
3           accepting source data having a variable data tag;  
4           associating a first identifier with the variable data tags;  
5           replacing variable data tags with variable data or a reference to the variable data;  
6 and  
7           augmenting the job ticket with the variable data or the reference to the variable  
8 data.